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EFFECTS OF THE WHITE OXIDE OF ANTIMONY IN THE PNEUMONIA OF CHILDREN.

THE beneficial effects of antimonial preparations, on certain forms of inflammation, and the high doses to which the administration of this remedy has been carried by the Italian and French physicians of the present day, are well known. The subject has been still further investigated very lately at the *Hôtel Dieu* by Messrs. Trousseau and Bonnet, and several cases have been treated at the *Enfans Malades* by Messrs. Guersent and Baudelocque, which satisfactorily prove the therapeutic effects of antimony on parenchymatous inflammation of the lungs in the young subject. We shall take this opportunity of referring briefly to the observations of M. Trousseau, and shall then notice a few of the most remarkable cases just alluded to.

The experiments of M. Trousseau were conducted under the eye of M. Recamier at the *Hôtel Dieu*, for the space of eighteen months. The effects of antimonial preparations on the economy are various; but it is our intention to consider merely their antiphlogistic properties, which, according to M. Trousseau, are more powerful than those of any other substance in the materia medica. Antimony was administered, chiefly in the form of tartar emetic, to individuals affected with a great variety of non-febrile diseases, as chronic rheumatism, sciatica, chronic catarrh, &c., and produced important modifications in the state of the circulation, respiration, and urinary secretion.

1st. The *circulation* is calmed in an extraordinary manner under the influence of antimony; the pulse becomes more feeble and slow. M. Trousseau has seen the pulse brought down in three days, from 72 to 44, at which latter rate it continued to beat for a considerable time. However, the diminution seldom exceeds one-fourth or one-fifth, while the strength of the pulse is lowered in a very remarkable degree.

2nd. The *respiration* is affected soon after the influence of the remedy is felt in the circulation; in some cases the retardation is very great, the rate of respiration falling from twenty-four or twenty in a minute to six; but although the patient breathes in this extremely slow manner, he suffers no difficulty or embarrassment in his respiration.

3rd. On the *secretion of urine*. When antimony does not determine vomiting or purging, it constantly augments the secretion of urine. The fact is indisputable, although it has not been noticed by any of the authors who have lately written upon the action and effect of antimonial preparations. We here see some analogy between the effects of antimony and other remedies which exercise a sedative influence on the circulation, as digitalis, squills, vegetable acids, &c.; both these, at the same time that they lower the pulse, stimulate the kidneys also, and increase the secretion of urine. It has been generally considered, that the local irritating action of antimonials is in direct proportion to their solubility—and this, in fact, is true; but the experiments made at the Hôtel Dieu demonstrate this curious and inexplicable fact, that pure antimony, in its metallic state, acts almost as energetically as tartar emetic.

Fifty-eight patients, affected with acute pneumonia, were treated by M. Trousseau with antimony alone, no other remedy or therapeutic agent being employed. Of these, two cases terminated fatally; one that of an old woman, who came into the hospital on the eleventh day of the disease; the other was the case of a man who was treated before the fifth. Tartar emetic, metallic antimony, the protoxide, deutoxide, tridoxite of antimony, antimoniate of potass, and Kermes mineral, were administered to these patients. The general effects of the remedy were invariably the same, but the local effects frequently differed, according to the form in which the antimony was administered. One of the earliest effects of the remedy is seen in the altered state of the *expectoration*. Of the fifty-six patients who were cured, the peculiar expectoration of pneumonia had disappeared in fifty-four, within forty-eight hours after the administration of the antimony; the rusty-colored bloody expectoration soon assumed a yellow tinge, and in three days was converted into that of acute catarrh. In one-fourth of the cases treated at the Hôtel Dieu, the expectoration peculiar to pneumonia was removed within twenty-four hours. The diminution of the pulse in *strength* and *frequency* was a constant phenomenon, and took place very rapidly, arriving at its maximum about the fifth day of treatment. Of the fifty-six patients above mentioned, the febrile heat persisted beyond forty-six hours in five only; and of these, three were relieved from this symptom on the fifth day, and the two others on the sixth. The persistence of febrile heat and frequency of the pulse took place only in those cases where the pneumonia had passed into its third stage, and suppuration had consequently existed. The diminution of the number of respirations in a minute was equally constant, but was not on all occasions proportionate to the retardation of the pulse.

We have (says our reporter) had occasion to verify this remark of M. Trousseau, at the Hopital des Enfans, where we have seen the relation between the respiration and pulse in cases of pneumonia excessively various, and apparently governed by the state of the lung itself. As to the local effects, tartar emetic generally produces vomiting and purging when it is first administered; metallic antimony has also the same effect in a few cases, while the insoluble preparations seem to have no effect whatever on the stomach or bowels. It is necessary to remark, that bleeding was never employed as an auxiliary, and those cases were most speedily cured where the fever was most violent, the pulse full and intermitting, the skin excessively warm, &c.; in short, where the symptoms indicated a very high degree of inflammatory action. M. Trousseau, indeed, is of opinion that bleeding from the arm rather diminishes the good effect of antimonials, for he has remarked that it is much more difficult to bring down the pulse and fever, and to lower the respiration, after the patient has lost one or two pints of blood.

One of the most remarkable circumstances attending the treatment of pneumonia by antimony, is the rapid manner in which the patient recovers after the inflammation has been once subdued by the remedy; the period of convalescence is always short, and a relapse hardly ever occurs, unless the patient is guilty of some great imprudence, or the administration of the antimony has been suspended too suddenly. For females, and young subjects, we may commence by giving twenty grains of the white oxide; if for adults, or old people, thirty grains; the dose may be increased by one-half on the next day, and this should be continued until the febrile symptoms are entirely removed, or even rather a few days longer; the dose should now be diminished gradually, in proportion as the patient partakes of more aliment. It is worthy of remark, that the effects of antimony were considerably modified by the peculiar state of the atmosphere during the prevalence of cholera in Paris, and that a very small dose often produced at that time gastric disorders of an unpleasant nature.

The efficacy of antimonial preparations in cases of pneumonia has been equally established at the Hopital des Enfans Malades, where M. Baudelocque has been in the habit of employing them for a long time. There is perhaps no other affection to which young children are so exposed during the course of eruptive diseases as pneumonia; and the period at which the inflammation is developed, the insidious manner in which it comes on, and the already reduced state of the little patient, render it a very dangerous and fatal complication. Thus a child is attacked during the suppurating or scabbing stage of smallpox; he has been reduced to an excessive state of debility, by a disease which has continued with severity for twelve, or even twenty days; the patient is perhaps affected with diarrhœa, and the irritable condition of the gastro-intestinal symptom will not permit us to act upon the bowels. Here the administration of purgatives, or the employment of general bleeding, is totally inadmissible, and we have no hesitation in affirming that the prompt administration of antimony is absolutely necessary to afford the patient any chance of recovery. The greatest care and attention are required on the part of the physician to detect the existence of pneumonia in many of these cases, especially when the child is very young; when the inflammation is confined to a limited portion of the parenchymatous tissue, and when both lungs are affected at the same time.

The presence of pneumonia in the infant is seldom declared by any remarkable degree of febrile heat; there is no expectoration, little or no cough, and without the assistance of auscultation we should be perfectly ignorant of the existence of the disease; but when the inflammation is lobulated, and attacks corresponding parts of both lungs, the diagnosis, even with the assistance of the stethoscope, is extremely difficult. We can appreciate no difference of sound between the two sides of the chest, which are equally dull to percussion; and when the portion of lung affected is deep-seated, the respiratory murmur often makes any rale, which the stethoscope would easily detect under other circumstances.

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PATHOLOGY AND TREATMENT OF SCARLATINA.

IN A LETTER TO THE EDITOR OF THE LONDON MEDICAL GAZETTE.

BY W. HAMMOND, JUN.

Having been led to adopt a different plan of treatment from that which is commonly relied on in scarlatina, I am induced to request your circulation of the result of my observations; and the more so that the disease which has recently spread throughout England, has assumed the severe and dangerous character of the scarlatina anginosa, which prevailed about fifty years back. It appears that the scarlet fever of that period was of a nature so formidable as to excite a universal dread of its contagious influence and destructive effects. This dangerous form of scarlatina, however, as is well known, subsided into that mild form which has been appropriately named scarlatina mitior, and which, as Sydenham remarks, "is a fever so slight, as scarcely to be accounted a disease, requiring only an antiphlogistic regimen, and the absence of cold air." And for a number of years this mild scarlatina prevailed, and has even run through whole villages, without requiring professional assistance. But it will not be doubted that the scarlatina anginosa has again made its appearance under a scarcely less formidable type than its predecessor. And it is upon this form of the disease that I now respectfully entreat the attention of my medical brethren,—under the belief that the long continuance of the milder kind, and the successful treatment of many slight cases, have thrown us off our guard, and created a prejudice in favor of doing little or nothing, whilst a severe form of scarlatina, requiring a proportionally active treatment, has been gradually taking its place.

In order to render the plan of treatment which I shall venture to recommend more easily intelligible, I shall not apologize for offering a brief description of the symptoms and progress of *scarlatina anginosa*, such as I have observed it.

The scarlatina anginosa is ushered in by pain in the limbs, prostration of strength, slight sore throat, and headache. These symptoms are followed by a burning skin and a rapid pulse, succeeded by the scarlet rash, more or less over the whole body. On or about the second night, the sore throat becomes worse; the head more affected; and on that night, or more commonly on the third, there is extreme restlessness and delirium, and there is sometimes stupor. The whole of this first stage would appear to be inflammatory in the highest degree, the danger commencing with the extreme restlessness, delirium, or stupor, or unusual short breathing. If these symptoms be not removed, the case ends fatally from the seventh to the tenth day.

The skin in this fever is hot and dry; and in many severe cases perspiration will not be produced till three weeks to a month have elapsed from the commencement of the attack. The throat and head are seriously attacked in this disease, and change of structure in vital organs, as the pharynx, trachea, brain, sometimes takes place; and such circumstance will of course be fatal. It will sometimes happen that sore throat and fever will occur in individuals exposed to the infection of scarlatina without rash on the surface of the body; such cases may be tedious and troublesome, but are seldom dangerous.

Scarlet fever sometimes becomes putrid in its character, becoming what is termed scarlatina maligna; petechiæ will appear on different parts of the body; the sore throat will be sloughy and fœtid; the lips covered with brown sordes; and the tongue dry and brown; the pulse quick and small. In such cases the termination will in general be rapidly fatal. The rash in scarlatina anginosa is sometimes general and florid, at others partial, and with little color. The amount of rash in scarlatina anginosa does not appear to be any indication of danger: the head affection, or state of throat, or extreme difficulty of breathing, constitutes the danger.

The sudden interruption of all the secretions of the body, particularly of those of the bowels and skin; the determination of blood to the head, throat, and sometimes to the lungs; the disturbance of the brain and nervous system so quickly after the fever has commenced; the rapid circulation, the pulse often 130 in a minute—have led me to consider the scarlatina anginosa as a fever highly inflammatory.

In accordance with this view, an active depleting plan of treatment would appear to be the one indicated; and I would recommend, that as soon as this fever commences, calomel and active purgatives should be first employed; when restlessness comes on, or the slightest expression of delirium or stupor, blood should be abstracted: in adults it is of course easily obtained from the arm; in young children, from the jugular vein. Calomel and antimony in large doses should be given at night, and infusion of senna and sulphate of magnesia as an active purgative in the morning.

With infant children, calomel and jalap, or scammony and calomel, will answer the purpose. The purging should be continued actively till the feverish symptoms yield, and calomel and antimony, in small doses, as a febrifuge, should be given every four or six hours, to reduce inflammatory action. It does not appear necessary to affect the mouth by mercury, though no great evil arises if this accident occur; but the bowels should be made to act once in four, or once in six hours, until the active fever subsides.

The sore throat will require leeches for the first three to eight days, and sometimes the inflammatory affection will become indolent; and this condition of throat will receive benefit from external irritation, for which the best means is a mustard poultice. In the delirious state, leeches applied to the temples will be of use, but should not wholly be depended on. The abstraction of ten or twelve ounces of blood from the adult, between the second and the fifth day, and four to eight ounces from children, according to their age, followed immediately by active and mercurial purgatives, commonly takes off the brain affection, diminishes the severity of the sore throat, lessens the pungent heat of skin, lowers the rapid pulse, and puts the patient in a state of safety about the fifth to the eighth day.

A hot dry skin will continue sometimes long after this period, and will require sponging with tepid vinegar and water, and, after a time, the use of the warm bath.

When symptoms of debility come on, after the active fever is subdued, small doses of ammonia will be useful; and when all heat of skin has ceased, bark may be safely employed.

Having ventured to recommend so active a treatment in scarlatina anginosa to the adoption of the medical practitioner, it may be necessary for me to state that the grounds upon which I have founded this recommendation, is the successful termination of 300 cases, during a practice of twenty years. The treatment was, of course, more or less active, according to the symptoms of inflammatory action; but in no one case where I resorted to it, had I occasion to repent the use of the lancet, but in several, where bleeding by leeches only was employed, the protracted period of fever, and the after ill consequences—as abscess in the ear, suppurating glands, long-continued debility—made me regret that I had not taken blood from a vein. In sixty severe and dangerous cases of scarlatina anginosa, in which blood was taken from a vein, delirium and stupor subsided after the bleeding; a second venesection was in no case required, and the recovery was rapid in all. To illustrate more particularly the treatment I have described, or rather, indeed, more forcibly to impress upon the public how thoroughly inflammatory this form of the scarlet fever is, I will now detail a few cases.

CASE I.—A boy of seven years of age, was the eighth in succession attacked by scarlet fever, and it had been severe in most of the previous cases. On the second night he was in a highly-excited state of delirium, and could with difficulty be kept in bed. His pulse was 140; his head hot; his skin dry; his tongue parched. Eight ounces of blood were taken from his arm, and five grains of calomel given, with four of antimony. The delirium soon ceased, and in two hours he fell asleep. In the morning his head was perfectly relieved; he was sensible, and cheerful. In the night he had pulled off his bandage from the arm, and bled, before it was discovered, at least twelve ounces more. His bowels had acted freely; his throat was considerably better; he recovered rapidly; and on the fifth day was up and dressed, and wished to be allowed to walk.

CASE II.—A slender boy, of thirteen years, who had outgrown his strength, was attacked by scarlatina anginosa. On the morning of the third day delirium commenced; twelve leeches were applied to his temples and throat, and he was freely purged. At night he was most restless, and became delirious. Ten ounces of blood were taken from his arm; he obtained sleep soon after; on the following morning he was sensible; his throat better: the purging was continued, and on the fifth day he was convalescent.

CASE III.—A boy, nine years of age, had been treated by gentle and continued purging, and by leeches to the throat, gruel and water for diet, up to the eighth day, without any remarkable symptom, but with more or less fever during that time. On the eighth night he had a dry hot skin, a brown dry tongue, a quick small pulse, with a *slight jerk* in it; still, as I thought, denoting inflammation not thoroughly put out. He was at one time stupid, at another delirious; his throat was coated with soft lymph, which fringed the fauces and covered the larynx. The child breathed with difficulty, and instinctively tried to throw up the flakes of lymph which obstructed his breathing. He could not swallow.

Eight ounces of blood were taken from his arm; in an hour his delirium and restlessness subsided; his breathing became more easy; he slept considerably. On the following (the ninth) morning, he was sensible when he awoke; his throat had thrown off large masses of lymph; the boy's energies seemed restored, and his fingers were continually passed down his throat, to draw away the flakes which obstructed his swallowing. He had no more fever, and recovered rapidly.

Case IV.—A plethoric child, aged three years, after active purging, on the third day became extremely hot and restless; at night stupor came on, with short breathing. The state of the throat was not unusually severe. Four ounces of blood were taken from the jugular vein. The restlessness and heat of skin quickly subsided; four grains of calomel, with four of jalap, were got down; the child was freely purged during the night, and in the morning was relieved, and out of danger.

Case V.—A slender child of four years, on the fourth night, under circumstances very similar, but with worse throat, was treated by six ounces of blood from the jugular vein, followed by a calomel and scammony purgative, with the same result.

It might, at first thought, be supposed that such active remedies must be followed by extreme debility: it will be generally (I had almost said invariably) otherwise; and if debility be the consequence of the high inflammatory action, we can scarcely doubt that the debility will be obviated, or lessened, by diminishing the degree and shortening the duration of that inflammatory action. In accordance with this general remark, I have found that all the cases which were, during the first four days, treated actively, were the soonest well, and the least affected by after ill consequences—as glandular disturbance, abscess, &c.; and were the least weakened as to their muscular power. In fine, I have no hesitation in saying that the arrest of the inflammatory fever is the arrest of debility, and hence the recommencement of strength.

It will be seen, then, that I cannot approve of that mild antiphlogistic plan, consisting in little more than saline draughts and barley-water, too often employed in scarlatina anginosa; and that my experience leaves me no choice in recommending an active depleting plan of treatment.

It is scarcely necessary for me to observe that I have here written solely on the form of scarlatina termed anginosa, not maligna. I may add also, that, in 300 cases, I have not met with one of the latter; and this circumstance leads me to suspect that the scarlatina maligna is sometimes only the putrid termination of the anginosa, unchecked, or not sufficiently depleted, in its inflammatory stage. It is, however, perfectly possible that particular localities (as unwholesome air, or a marshy district) may give a malignant character to scarlet fever. To this form of the disease my observations are not intended to apply; but distinctly to that species of scarlatina anginosa which has been so prevalent during the year 1833. It is right also to state, that the situation of my practice has been ten miles to the north of London, in a bracing and invigorating atmosphere.

The profession will, of course, understand that I do not recommend bleeding in *all* cases of scarlatina; but in those that are severe, attended with intense heat of skin and rapid pulse, or the *slightest* brain disturbance;—and the time for bleeding between the second and the fifth day: but should it have been neglected beyond the fifth, and the patient be under stupor or delirium, or extreme short breathing, the lancet would still offer the best chance of recovery, as illustrated by Case the third. Purging from the *very commencement* of scarlet fever is indispensable; and after bleeding, the effect of a purgative relieves in a much higher degree than before: and for this opinion we have the highest ancient and modern authorities. I had the misfortune to witness a case where purgatives failed in operating upon a child for the first forty-eight hours, and no after-treatment could recover that child: it died after five days' struggle.

Some objection to the abstraction of blood may arise, at least with the public, from an apprehension that it would interrupt the continuance of the rash: bleeding and purging both promote that continuance; and if the eruption be previously checked, it will appear more fully after either.

Sponging with tepid vinegar and water is useful in relieving the pungent heat of skin, which always, more or less, attends the scarlatina anginosa; yet, where there is head affection, this should not be depended on as a *curative means*. Indeed, any benefit from the skin is little to be relied on; we not only cannot obtain perspiration during the inflammatory stage, but, in many instances, several weeks pass over before sweating, or even a soft state of skin, can be procured: all we must look to obtain is lessened heat; and long experience has taught me that that object is best accomplished by active early depletion.

It is, no doubt, a matter of regret that the practitioner may often find a difficulty in procuring the concurrence of friends and parents in this plan of treatment; and we have only to hope that its advantages may be as fully appreciated as those of a similarly active treatment in measles, and we do not question that experience will produce this beneficial result.

SIR ASTLEY COOPER ON FRACTURE OF THE NECK OF THE FEMUR.

To the Editor of the London Medical Gazette.

SIR,—I find in your last number, in a report of Le Baron Dupuytren's lecture, that he attributes to me the opinion that fractures of the neck of the thigh bone, within the capsular ligament, not only "never unite, but that it is impossible they should unite by bone."

It is quite true that, as a *general principle*, I believe that those fractures unite by ligament, and not by bone, as do those of the patella and olecranon. But I deny that I have ever stated the impossibility of their ossific union; on the contrary, I have given the reason why they occasionally may unite by bone.

The following are my words—"*To deny the possibility of their union, and to maintain that no exception to this general rule may take place, would be presumptuous.*"

I then proceed to state, that the cause of the deficient union is to be found in the reflected ligament of the cervix femoris being torn through, and that thus a defective nutrition of the head of the bone is produced. But I held, that if the reflected ligament remained whole, or was but slightly torn when the bone was broken, it would unite by means of its cancellated structure; but that in such a case the limb would not be shortened in the usual manner, nor would the case have the common characteristics of this accident.

In proof of the truth of these observations, I shall give the following quotation from Mr. Swan's work on the Diseases of the Nerves, page 304.

"CASE.—Mrs. Powell, aged above 80 years, fell down in the afternoon of the 14th of November, 1824. I saw her soon after, and found her complaining very much of pain in the left hip. The limb could be moved in every direction, but this motion produced excessive pain. She lay on her back, with the limb extended; and nothing *was ever done*, except the application of fomentations for the first few days. I believe there was a fracture of the neck of the thigh-bone, although the limb remained quite as long as the other, and I could neither perceive a crepitus, nor any altered appearance in its position, except a slight inclination of the toes outwards. She had more constitutional irritation than I ever observed from a similar accident. She suffered much pain in her hip, and was in consequence obliged to take an opiate; but she got very little rest. She generally had much thirst. There was the utmost difficulty in keeping her bowels open; and she had great pain and difficulty in making water. She had no appetite for common food, and for three weeks appeared so weak, that she was under the necessity of taking wine and brandy. For some time all her urine and stools were passed in bed, but not involuntarily, and only because she could not be persuaded to use proper means; in consequence, her back became very sore. Latterly she complained of pain in the abdomen, which was very tender on pressure, and made even the weight of the bed-clothes inconvenient. Her tongue became very dry and brown; and in the last twenty-four hours she was insensible. She died on the morning of the 19th of December, about five.

"EXAMINATION.—This took place at seven in the evening.

"There was some ecchymosis amongst the muscles about the injured part, and in the cellular membrane, about the sciatic and anterior crural nerves. The greatest part of the fracture of the neck of the thigh-bone, which was entirely within the capsular ligament, was firmly united.

"A section was made through the fractured part, and a faint white line was perceived in one portion of the union, but the rest appeared to be entirely bone." Mr. Swan goes on to say, "This beautifully shows the principle which Sir Astly Cooper has advocated—viz. that when the reflected ligament remains whole, and the bones are not drawn asunder, the nourishment to the head of the bone continues, and union will be produced even in the short space of five weeks, by only placing the knee over a pillow, and in other respects leaving the case to nature."

Of the contrary state of the fracture—viz. that in which the reflected ligament is torn—I may give the case sent to me by Mr. Robertson, of Sheerness, in which the patient's limb was extended for six months without any ossific union.

On the 25th of June, 1822, William Durain, aged 62, a tall, athletic convict, of a sanguine temperament, fell, with a very inconsiderable violence, across a piece of timber in the Dock-yard, his left hip coming in contact with the wood. On rising, he felt an acute pain in the region of the acetabulum, but no other inconvenience, for he walked on board to exhibit himself to the surgery-man. From finding him ranked up with the sick of the hulk, on my morning visit of the 26th, from his walking on board, and from his own account of the accident, I did not suspect any serious injury to the joint, and treated the case as one of concussion.

On the 29th, however, he complained of a very sudden and very agonizing accession of pain, which induced me to subject him to a more critical examination. No evident alteration in the size of either hip could be discerned, but a shortening of the limb was conspicuous, which was rendered more evident by making him stand upon the sound limb: extension removed this difference; but, on being freed from restraint, it again assumed its morbid shape; the knee and foot were everted, and rotation greatly increased his pain.

I removed him to the hospital, as a case of fracture within the capsule; but a continued attention for a period of six months to position (chiefly with a view of restraining the motion of the pelvis, and of securing the limb), made no other alteration in the symptoms than a gradual diminution of pain: a pair of crutches were given him, he was placed on the invalid list, and remained till the 26th of September, when he died from general dropsy. On dissection, the injury proved a transverse fracture of the head of the femur, within the capsular ligament; no species of union had taken place. The upper portion of the fractured bone was retained in situ, by the sound ligament, tolerably smooth upon its surface, but without any ossific deposit.

The lower portion was very irregular, with several detached pieces of bone adhering to the insertion of the capsular ligament. Between the acetabulum and the portion of bone retained in situ by the ligament, were several small oval-shaped, loose cartilaginous substances, apparently fragments of bone; the capsular ligament partially lacerated, in a line above the trochanter major, and greatly thickened in its insertions.

I should not have given you this trouble, nor should I have taken it myself, but for the respect I bear my friend the Baron Dupuytren; for, although I have readily submitted myself to be misrepresented by many individuals, yet I should be sorry to be misunderstood by so excellent a surgeon, and so valuable a friend, as le Baron Dupuytren.

ASTLEY COOPER.

OSSIFICATION OF THE ARTERIES.

BY D. H. HUBBARD, M.D.

[Communicated for the Boston Medical and Surgical Journal.]

MR. EDITOR,—Having occasion to address you, I send for your disposal a case (as copied from my case-book) of extensive ossification of the arteries.

April 30th, 1833, I was called to visit H. M. a German of 50 years of age, at the State pauper establishment in this place. He had been lately brought here from an adjoining town, and had been under the care of various physicians, who, he informed me, were of the opinion that he was consumptive, and had treated his case accordingly. His respirations were frequent and laborious. Cough urgent, expectoration copious and muco-purulent ; skin rather dry, occasionally moist ; tongue thickly coated ; pulse doubtful (the artery feeling like an inelastic tube rather than a bloodvessel). The quality of the pulse, even its frequency, I was unable accurately to ascertain. The temporal, carotid, and humeral arteries, although less firm in their texture, were still so rigid as to defy accuracy. Excretions scanty, and anorexia. A small portion of the lungs only was inflated—indeed, he was unable to count audibly more than five or six during expiration after his fullest inspiration. He could lie on either side or back with equal ease, provided the head and chest were considerably elevated ; but when laid horizontally, the difficulty of breathing was greatly increased. His body was reduced to almost a skeleton, and he had all the symptoms of a speedy dissolution. Not expecting much advantage from opiates (as he had tried them largely), or expectorants, I determined to try emetics of ipecac. and sulph. zinc, and one of twenty grains each was accordingly ordered in divided doses, which changed the quality and quantity of the expectoration, and somewhat improved his appetite. A return of the former symptoms induced the trial of another ; and finding he was benefited by its use, one was ordered every third or fourth day. After eight or ten were used, and his system supported with Griffith's myrrh mixture and other tonics, his cough abated, and his expectoration became natural. But still his breathing continued laborious, notwithstanding the lungs appeared free—allowing a full and easy inspiration. The slightest exercise, or the horizontal posture, produced rapid respirations. The latter symptoms increasing, with the sensation of suffocation, it was found necessary to elevate the body almost to a perpendicular, to render him comfortable. Like the asthmatic, he would plead for open windows, which afforded but slight relief. The heart in its systole and diastole was extremely irregular ; at times rapid, and then an intermission would succeed. Viewing the case as hydrothorax or hypertrophy of the heart, alteratives, diuretics, external irritants, &c. were immediately resorted to, without benefit. Dyspnœa and partial convulsions rapidly ensued, until the 24th of May, when he expired.

Post-mortem Examination, 24 *hours after death*.—On opening the chest, lungs were found healthy in appearance, but somewhat firmer in texture than natural, although no marks of hepatization or other structural derangement were present. Pleura healthy. On dividing the pericardium, a large quantity of serum escaped ; I was unable to ascertain the quantity, but probably two-thirds of a pint. Heart appeared natural. The semilunar valves at the mouth of the aorta were found partially ossified ; indeed, small portions of ossific deposit were found about them sufficiently hard to break the edge of the scalpel. The aorta near these valves I was able to crush with my fingers. Determining to ascertain something of the extent of ossification, the descending aorta was pretty extensively examined, and large portions of ossific matter were found in its whole extent. Even where this did not obtain, a peculiar hardness of the vessel was observed. Sometimes rings, two or three lines in width, inclosing two-thirds of the vessel, were found, which the handle of the scalpel could easily penetrate. The femoral artery was examined near the point where the profunda is given off, and also where it becomes the popliteal, and found largely ossified. Endeavoring to raise it upon the handle of the scalpel, it was broken, and the profunda torn three-fourths across. The latter vessel I did not examine. The popliteal artery was nearly in the same condition, but rather more brittle. The anterior tibial was extensively examined, and I will venture to assert that it might have been easily broken at any point. Portions three-fourths of an inch long, completely ossified, were broken off, which appeared like bony tubes, and would easily crush by pressure. The vessel was so altered in appearance that no one would recognize it. The humeral and radial artery, at the places examined, were exceedingly firm and inelastic. Ossification had not so extensively changed their structure as that of the tibial. The veins and viscera of the abdomen were natural. I was unable to pursue the examination further, the hour of interment having arrived. How extensively the other vessels were affected, if at all, is questionable. I had expected to examine the brain, and the larger and minuter branches of the main arteries. During the term of illness, the temperature of the body was natural ; the extremities were perhaps warmer than is common in cases worn down and emaciated.

That blood was circulated through arteries whose structure rendered portions of them (to say the least) inactive, appears certain. I would inquire, Is the vis a tergo alone sufficient to propel it through inelastic tubes ? If so, why does an artery whose vitality is destroyed cease to discharge blood ? Why, in cases of amputation where the artery has been found ossified, is the tourniquet and ligature dispensed with ? The blood, it is true, might in this case have been conveyed to the extremities by the anastomosing branches. The limited examination was insufficient to decide this point. But to ascertain, if possible, how extensively the arteries were affected, an incision was made at the lower part of the femur, and all the soft parts divided to the bone. All of the largest vessels had the appearance of open inelastic tubes, and some of them were so brittle as to crush before the knife. Indeed, no artery of considerable size could be found unchanged in structure. What was the condition of the capillaries, I know not ; but I have every reason to believe that they were active. I should judge so from the fact that the extremities were as warm, if not warmer, than other parts of the system; and if they were not active, and efficient, too, to control the current of blood in the large arteries, in what way, I would ask, was circulation effected ?

Wintonbury, Con. June 17th, **1834.**

BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, JULY 1, 1834.

IODINE *vs.* MERCURIAL SALIVATION.

Recent observations among the Faculty appear to confirm the opinion, that we possess in Iodine a speedy and effectual remedy in cases of severe mercurial salivation. By full trials in public institutions, it has been found that under the influence of this medicine tumefaction of the glands disperses, salivation is arrested, and mercurial ulcerations cicatrize. These effects, often most desirable and generally so hardly attained, are manifested in three, four, or five days after commencing the use of iodine. Two forms have been proposed, of administering it in cases of this description, and both have been found successful. One is the iodine in substance, beginning with two grains, and gradually increasing it to four grains in a day. The other is as follows:—

R. Iodine pure, gr. v.
Rectified alcohol, ʒij. dissolve and add
Cinnamon water, ℥vss.
Simple syrup, ℥ss.

Half a drachm of this solution is the commencing dose, and it may be increased to a drachm morning and evening.

VESICAL MEDICATION.

A writer in a late London periodical recommends a new mode of introducing medicine into the system—a mode sufficiently described by the title given above. By the injection of medicated liquids into the bladder, he believes the system may be brought under their influence with nearly as much readiness as when medicine is introduced through the stomach. When the stomach is particularly irritable, this resort may not be unworthy a trial.

MEDICAL SCHOOL IN BOSTON.

The Medical Faculty of Harvard University have announced to the public that some important changes have been made during this year, in regard to the term of Lectures in that Institution, and the conditions of Medical graduation; by which the necessary expense to students is diminished, while the opportunities of instruction are at the same time increased.

By a recent vote of the Corporation and Overseers, two courses of Lectures are now required for a Medical degree, one of which at least must be attended in this University, and the other may be attended at any respectable incorporated Medical School, in which the same branches are taught.

The Lectures will begin on the first Wednesday in November, and continue thirteen weeks, after which time the regular course will be considered as terminated. But for the following four weeks, the Hospital and the Dissecting-room will be kept open, and some Lectures will be given, without additional expense, to such students as may choose to remain.

A new Course of Lectures on the Principles of Surgery and Clinical Surgery has been established, and will go into operation this year. The addition of expense arising from this Course, is considered as more than counterbalanced to non-resident students, by the reduction of the fee for the Course on Anatomy, and by the diminished term of necessary residence.

By an additional act of the Legislature of Massachusetts, passed during their late session, the opportunities for the study of Practical Anatomy are now placed upon the most liberal footing. While the violation of sepulchres is prevented, it is anticipated that an ample supply of subjects for the wants of science will be legally provided at a small expense.

An account of the Courses of Lectures that will be delivered to the class of the ensuing season, will be given in an advertisement in a future No. of this Journal.

The Massachusetts General Hospital is open without fee to Students attending the Lectures of the physicians and surgeons. This Institution contains about sixty beds, which are, most of the time, occupied by patients who are subjects partly of medical, and partly of surgical treatment. Clinical Lectures are given several times in each week, and surgical operations are frequent. The number of surgical operations during the last five years, has averaged about seventy in each year.

To the Medical College is attached a Medical Library, a costly and extensive Chemical Apparatus, and Collections illustrative of Midwifery, Materia Medica, and Healthy and Morbid Anatomy.

THE NEW ALKALOIDS.

The numbers of the *Journal de Pharmacie* for February and March, contain some interesting particulars on several of the new alkaloids.

Sarsaparilline.—This substance (says M. Thubeuf) is regarded as the active principle of sarsaparilla. Like the original root, it communicates to water the property of frothing when agitated, and gives it that sharp bitter taste which we find in the aqueous or alcoholic infusions of sarsaparilla. When examined by the microscope, it presents radiated crystals, the layers of which converge toward their extremities, and it has no action whatever upon turnsole paper. Sarsaparilline, when pure, is white, without odor, and, if it contain no water, is tasteless. It is little soluble in cold water, but the whole is taken up by boiling water, which throws it down again as it grows cold. It is soluble in alcohol, either cold or warm, and the substance may be crystallized in this manner by evaporation. It may be precipitated from its alcoholic solutions, by the addition of a little cold water. This alkaloid is insoluble in ether, even at the boiling point, but is very easily dissolved in a warm mixture of alcohol and ether in equal quantities.

Atrophine.—This substance (say MM. Geiger and Hesse), already noticed by Brande, has been obtained from the atropa belladonna. It has presented identical properties when obtained from the same part of the plant by different processes. It is white, and crystallizable into bright, transparent prisms, which have a tendency to group together; at the ordinary temperature, water takes up only a hundredth part of the mass. The aqueous solution of atrophine renders turnsole paper blue, when reddened by an acid. It acts on the organ of vision in the same way as belladonna, and even a very weak solution is sufficient to dilate the pupil, which remains in that state for a considerable time. Chlorine has very little action upon it, and it seems to form sub-saline compounds with the acids. The aqueous infusion of atrophine forms an abundant white precipitate with the aqueous infusion of galls, and it forms an orange-yellow precipitate with the hydrochlorate of gold.

Hyosciamine.—This alkaloid is most easily obtained from the seeds of the hyosciamus niger. It crystallizes into transparent colorless needles. Its taste is acrid and disagreeable, like that of tobacco, and it has a powerfully poisonous action. The smallest quantity, placed on the eye, produces permanent dilatation of the pupil ; in an anhydrous state it is not alkaline, but becomes so by the addition of a small quantity of water. The salts of hyosciamine are neutre, they are partially crystallizable, and are as poisonous as the plant itself.

Daturine.—This alkaloid has been extracted by the same chemist from the datura stramonium. It readily crystallizes into regular prisms, which are colorless and brilliant. It is inodorous. The taste is at first slightly bitter, and then becomes very acrid, like that of tobacco. Daturine is a highly-poisonous substance ; one-eighth of a grain was enough to poison a sparrow in three hours. When placed on the eye, it occasions a strong and permanent dilatation of the pupil.

Solanine.—This substance, already discovered by several French chemists in the solanum nigrum, solanum dulcamara, and the solanum mammosum, has been recently found in the potatoe by M. Otto of Brunswick. He obtained the alkaloid in the following manner :—The potato buds were first treated in water, acidified by sulphuric acid ; he then separated the sulphuric and phosphoric acids, with the extractive matter, by acetate of lead ; the colorless liquor which remained was saturated with lime water, and the precipitate boiled in alcohol ; and the product thus obtained was purified by frequent washing in alcohol. In order to determine its action on the animal economy, M. Otto tried the effects of this substance upon rabbits, and found that it should be ranged amongst the acrid narcotic poisons. One grain of solanine was sufficient to kill a rabbit in six hours ; a second rabbit, which was much stronger than the former, was destroyed in nine hours after having taken three grains. It exercises a remarkable paralyzing effect on the hinder extremities of the animal before occasioning death, and this paralysis may be produced in horned cattle, by simply feeding them on the washings of potato-tops. This substance is white and powdery, and turns blue turnsole paper which has been reddened by the action of an acid. The greater part of its salts assumes an aspect like gum upon desiccation.

Colchicine.—This alkaloid crystallizes into delicate needles ; its flavor is very bitter ; when placed in the nares it does not excite sneezing, while the smallest portion of veratrine occasions a violent fit. Colchicine is a strong poison. One-tenth of a grain dissolved in alcohol was given to a cat six weeks old ; the animal began at once to foam at the mouth ; after the lapse of an hour she passed abundant alvine evacuations, and vomited; she soon became feeble, unable to walk steady, fell down on the ground, rolled about, and was agitated by convulsive motions ; these symptoms increased in severity ; the animal died in twelve hours. On examining the body after death, the intestinal canal was found to be violently inflamed, and blood was effused into its tissue through the whole extent. One-twentieth of a grain of veratrine was given to a younger cat, in order to judge of its effects by comparison; they were very energetic; the animal quickly became feeble, was seized with convulsions, fell on the ground, and died within ten minutes. After death nothing remarkable was discovered, except inflammation at the upper part of the œsophagus. This portion of the canal was not inflamed in the cat poisoned by colchicine.

Aconitine.—M. Geiger has found this alkaloid in the leaves of the aconitum napellus; it does not seem susceptible of crystallization. When perfectly pure, it is white, grained, and forms a colorless, transparent mass. Its taste is bitter, then acrid, but the acridity is not strong or permanent. In this respect it differs from the plant, whose taste often remains twelve hours, leaving the tongue quite benumbed. The acrid principle is united with the aconitine, from which it may be separated by repeatedly combining the alkaloid with acids. When this substance is completely deprived of the acrid principle, it is excessively poiso[illegible] the one-fiftieth part of a grain, dissolved in alcohol, was sufficient to kill a sparrow in a few minutes, and one-tenth of a grain destroys a small bird with the rapidity of lightning. When placed on the eye it produced dilatation of the pupil, but the effect is of short duration.

French Gazette.

Whole number of deaths in Boston for the week ending June 27, 24. Males, 13—Females, 11.

Of inflammation in the bowels, 2—child-bed, 1—canker on the lungs, 1—convulsions, 1—drowned, 1—mortification, 2—consumption, 5—croup, 2—chronic inflammation, 1—accidental, 2—unknown, 2—dropsy, 1—infantile, 3. Stillborn, 1.

ADVERTISEMENTS.

MEDICAL INSTRUCTION.

The subscribers are associated for the purpose of giving a complete course of Medical Instruction, and will receive pupils on the following terms:

The pupils will be admitted to the practice of the Massachusetts General Hospital, and will receive Clinical Lectures on the cases which they witness there.

Instruction, by examination or lectures, will be given in the intervals of the Public Lectures of the University.

On Midwifery, and the Diseases of Women and Children, and on Chemistry · By Dr. Channing.
On Physiology, Pathology, Therapeutics, and Materia Medica - - - By Dr. Ware.
On the Principles and Practice of Surgery - - - - - - - - - - - By Dr. Otis.
On Anatomy, Human and Comparative - - - - - - - - - - - By Dr. Lewis.

For the greater accommodation of the Class, a room is provided in the house of one of the instructers, having in it a large library, and furnished with lights and fuel, without charge to the students.

The Fees will be, for one year, $100. Six months, $75. Three months, $50.

The Fees are to be paid in advance. No credit will be given, except on sufficient security of some person in Boston, nor for a longer period than six months.

Applications are to be made to Dr. Walter Channing, Tremont Street, opposite the Tremont House, Boston. April 2. Iam6m

WALTER CHANNING,
JOHN WARE,
GEORGE W. OTIS, Jr.
WINSLOW LEWIS, Jr.

Boston, March, 1834.

SURGICAL INSTRUMENTS.

An assortment of Surgical Instruments for sale at No. 35 Washington Street, five doors south of Cornhill, by A. P. RICHARDSON.

Surgical Instruments made and repaired as above. Orders forwarded will meet with punctual attention. Feb 19 ep

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